# User Manual

## IP CAMERA

**WARINGS**

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MISTURE.
DO NOT INSERT ANY METALLIC OBJECT THROUGH VENTILATION GRILLS.

**CAUTION**

**CAUTION**

RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION：TO REDUCE THE RISK OF ELECTRIC SHOCK.

DO NOT REMOVE COVER (OR BACK).
NO USER-SERVICEABLE PARTS INSIDE.
REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

**COPYRIGHT**

THE TRADEMARKS MENTIONED IN THE MANUAL ARE LEGALLY REGISTERED TO THEIR RESPECTIVE COMPANIES.

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# I. Preface

This is a professional CCD IP camera with the web server built in. User can view real-time video via IE browser. It supports MPEG-4 & JPEG video compression which provides smooth and high video quality.
With user friendly interface, it is an easy-to-use IP camera which is designed for security application.

# II. Product Specifications

- True Day/Night IR Cut Filter
- MPEG4/JPEG compression
- Wireless network connection ( Optional )
- 2-way audio
- Support Cell phone/PDA
- Online firmware upgrade
- Compatible with Microsoft Windows Media Player

**Specifications**

| **Hardware** | |
|---|---|
| CPU | ARM 9, 32 bit RISC |
| SDRAM | 64MB |
| FLASH | 8MB |
| Image sensor | 1/3” CCD |
| Lens Changeable | Yes, CS Mount |
| Support DC IRIS | Yes |
| I/O | 2 in/ 2out |
| RS-485 | Yes |
| Video Out | 1 |
| Microphone | Built-in |
| Audio Out | 1 |
| Power Consumption | DC 12V, 410mA |
| Dimensions (W×H×D) | 125 x 53 x 60 mm |

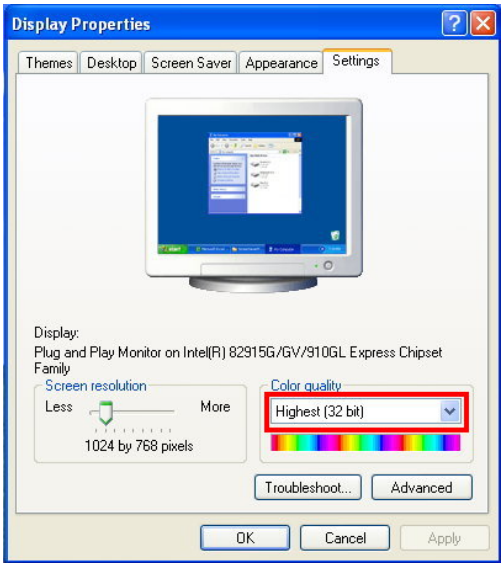
| | | |
|---|---|---|
| **Network** | | |
| Ethernet | | 10/ 100 Base-T |
| Network Protocol | | HTTP, TCP/ IP, SMTP, FTP, PPPoE, DHCP, DDNS, NTP |
| **System** | | |
| Video Resolution | | NTSC：720x480, 704x480, 352x240, 176x120 |
| | | PAL：720x576, 704x576, 352x288, 176x144 |
| Video adjust | | Brightness, Contrast, Saturation, Hue |
| CCD setting | | AES, BLC, AGC, Day/ Night(Auto) |
| Image snapshot | | Yes |
| Full screen monitoring | | Yes |
| Compression format | | MPEG-4/ JPEG |
| Video bitrate adjust | | CBR, VBR |
| Motion Detection | | Yes, 3 different areas |
| Triggered action | | Mail, FTP |
| Pre/ Post alarm | | Yes, configurable |
| Security | | Password protection |
| Firmware upgrade | | HTTP mode, can be upgraded remotely |
| Simultaneous connection | | Up to 10 |
| Audio | | Yes, 2-way |
| **Web browsing requirement** | | |
| OS | | Windows 2000, XP, 2003, Microsoft IE 6.0 or above |
| Hardware | Suggested | Intel-C 2.0G, RAM：512MB, Graphic card：64MB |
| | Minimum | Intel-C 1.6G, RAM：256MB, Graphic card：32MB |

# III. Product Installation

## A. Monitor Setting

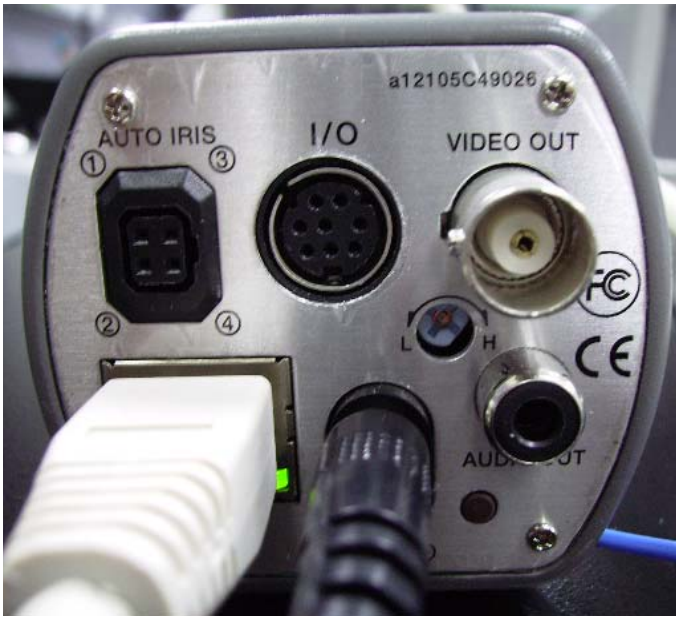
i. Right-Click on the desktop. Select “ Properties”

ii. Change color quality to highest (32bit).



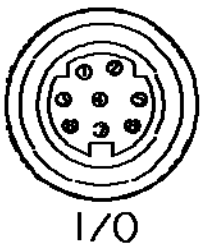
# B. Hardware Installation and I/O Pin Assignment

i. Connect power adaptor and network with Ethernet cable




ii. Set up the network configurations according to the network environment. For further explanation, please refer to chapter VI, “Network Configuration for IP CAMERA”.

iii. I/O Pin Assignment: Please refer to following figure.




1.12V
2.GND
3.GPIO 0
4.GPIO 1
5.GPIO 2
6.GPIO 3
7.D−
8.D+

# C. IP Assignment

i. Use the software, “IP Installer” to assign the IP address of IP CAMERA. The software is in the attached software CD.

ii. IP installer supports two languages

a. IPInstallerCht.exe：Chinese version

b. IPInstallerEng.exe：English version

iii. There are 3 kinds of IP configuration.

a. Fixed IP (Public IP or Virtual IP)

b. DHCP (Dynamic IP)

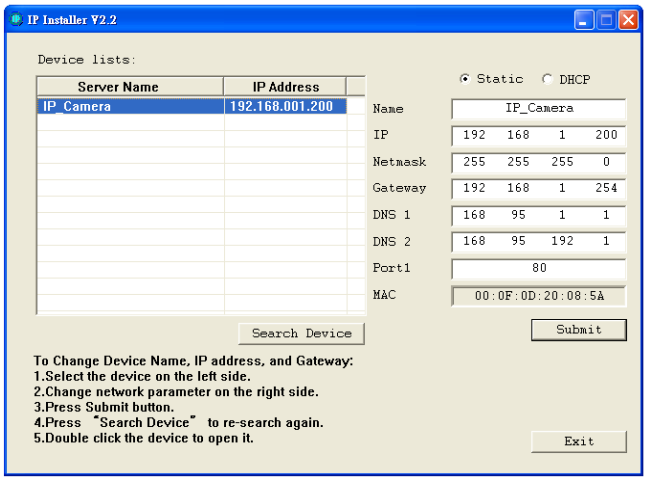
c. Dial-up (PPPoE)

iv. Execute IP Installer

v. For Windows XP SP2 user, it may popup the following message box. Please click “Unblock”.

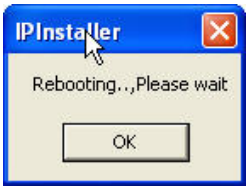
Windows Security Alert
To help protect your computer, Windows Firewall has blocked some features of this program.
Do you want to keep blocking this program?
Name: IPInstaller V2.1 Network Device Scan
Publisher: Unknown
Keep Blocking
Unblock
Ask Me Later
Windows Firewall has blocked this program from accepting connections from the Internet or a network. If you recognize the program or trust the publisher, you can unblock it. When should I unblock a program?

vi. IP Installer configuration:




vii. IP Installer will search all IP Cameras connected on Lan. The user can click “Search Device” to search again.

viii. Click one of the IP Camera listed on the left side. The network configuration of this IP camera will show on the right side. You may change the “name” of the IP Camera to your preference (eg: Office, warehouse). Change the parameter and click “Submit” then click “OK”. It will apply the change and reboot the Device.




ix. Please make sure the subnet of PC IP address and IP CAM IP address are the same.

**The same Subnet:**

IP CAM IP address: 192.168.1.200

PC IP address: 192.168.1.100

**Different Subnets:**

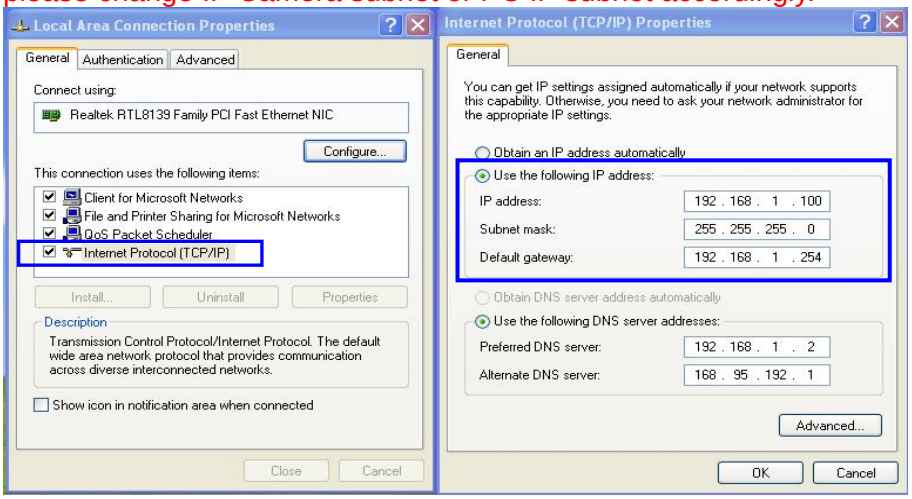
IP CAM IP address: 192.168.2.200

PC IP address: 192.168.1.100

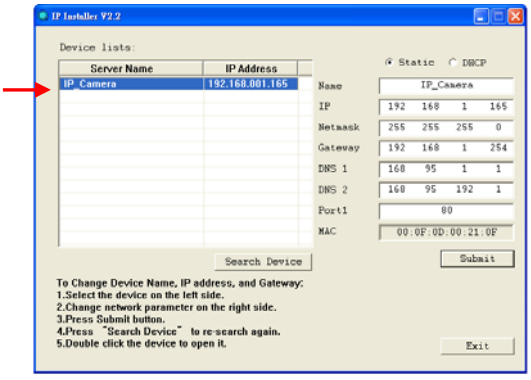
**To Change PC IP address:**

Control Panel→Network Connections→Local Area Connection Properties→Internet Protocol (TCP/IP) →Properties

Please make sure your IP Camera and PC have the same Subnet. If not, please change IP Camera subnet or PC IP subnet accordingly.

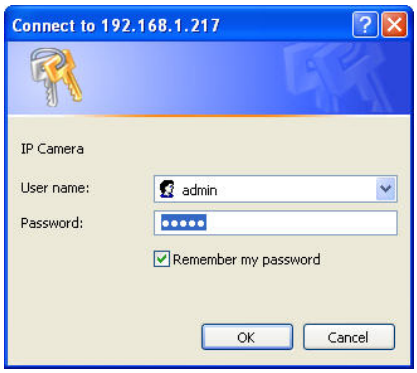

Local Area Connection Properties
General
Authentication
Advanced
Connect using:
Realtek RTL8139 Family PCI Fast Ethernet NIC
Configure...
This connection uses the following items:
Client for Microsoft Networks
File and Printer Sharing for Microsoft Networks
QoS Packet Scheduler
Internet Protocol (TCP/IP)
Install...
Uninstall
Properties
Description
Transmission Control Protocol/Internet Protocol. The default wide area network protocol that provides communication across diverse interconnected networks.
Show icon in notification area when connected
Close
Cancel
Internet Protocol (TCP/IP) Properties
General
You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.
Obtain an IP address automatically
Use the following IP address:
IP address: 192 . 168 . 1 . 100
Subnet mask: 255 . 255 . 255 . 0
Default gateway: 192 . 168 . 1 . 254
Obtain DNS server address automatically
Use the following DNS server addresses:
Preferred DNS server: 192 . 168 . 1 . 2
Alternate DNS server: 168 . 95 . 192 . 1
Advanced...
OK
Cancel

x. A quick way to access remote monitoring is to left-click the mouse twice on a selected IP Camera listed on “Device list” of IP Installer. An IE browser will be opened.




xi. Then, please key in the default “user name: admin” and “password:

admin".




# D. Install ActiveX control:

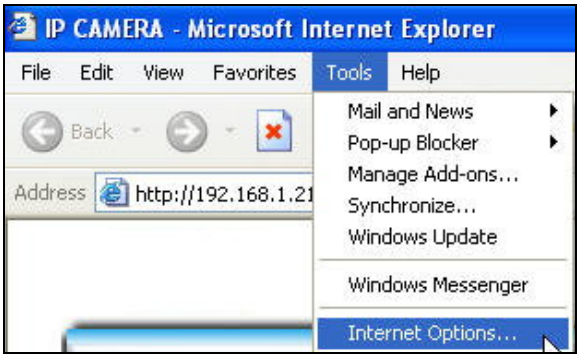
For the first time to view the camera video via IE, it will ask you to install the ActiveX component.

If the installation failed, please check the security setting for the IE browser.

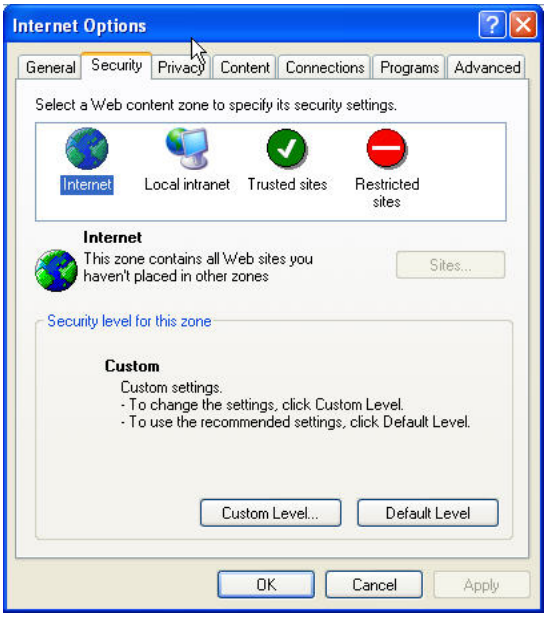
i. IE → Tools → Internet Options… → Security Tab → Custom Level… → Security Settings → Download unsigned ActiveX controls→ Select "Enable" or Prompt.

ii. IE → Tools → Internet Options… → Security Tab → Custom Level… →Initialize and script ActiveX controls not marked as safe → Select "Enable" or Prompt.

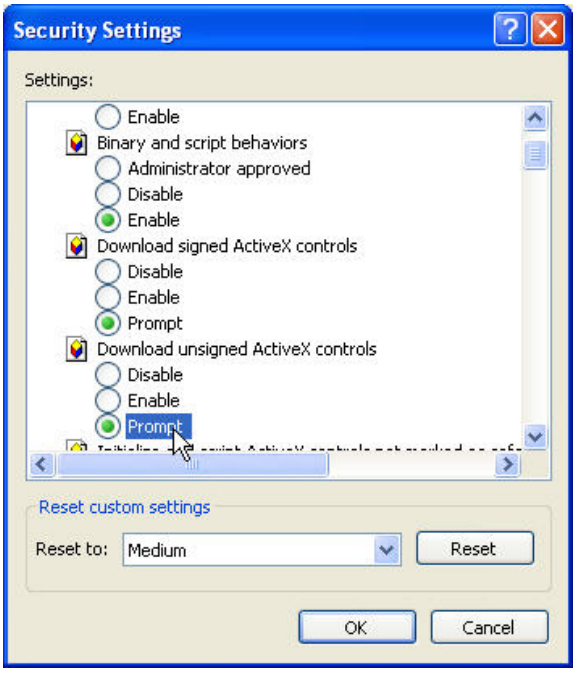
**1**



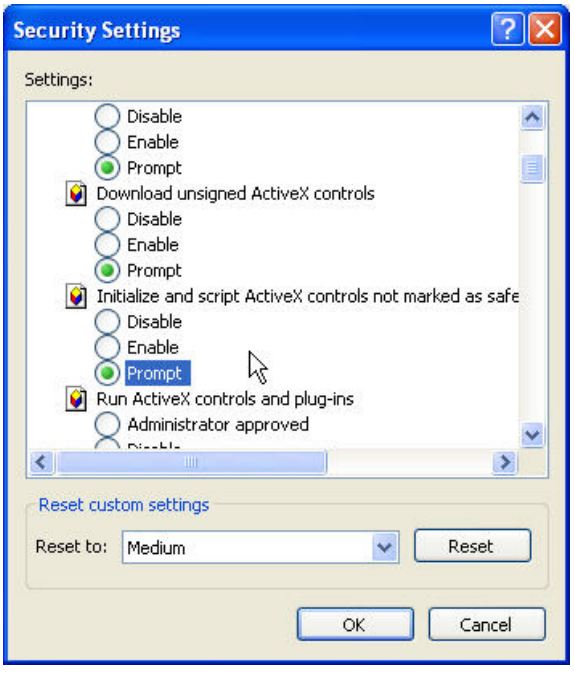

**2**




**3**

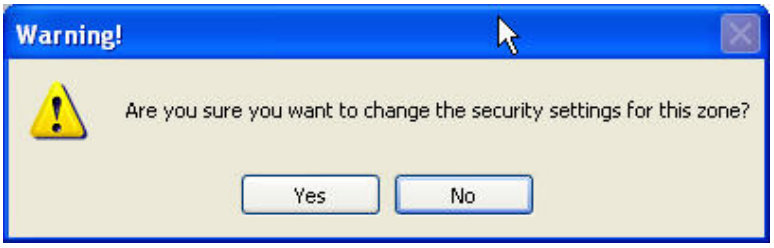



**4**



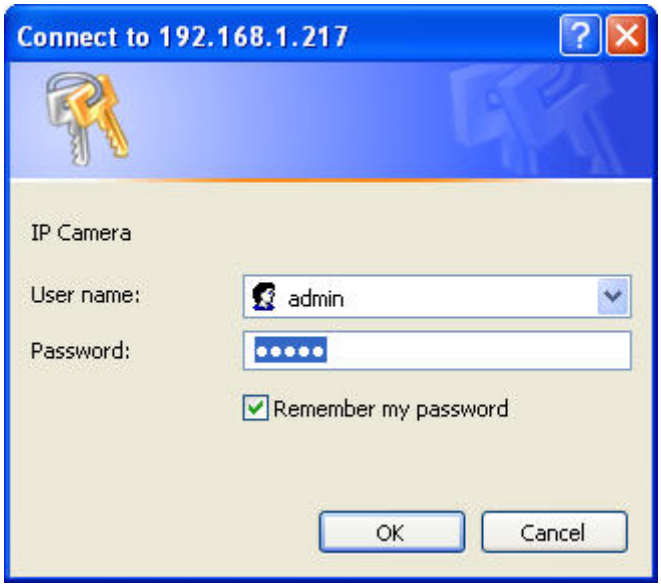

**5**

When popup the following dialogue box, click “Yes”.

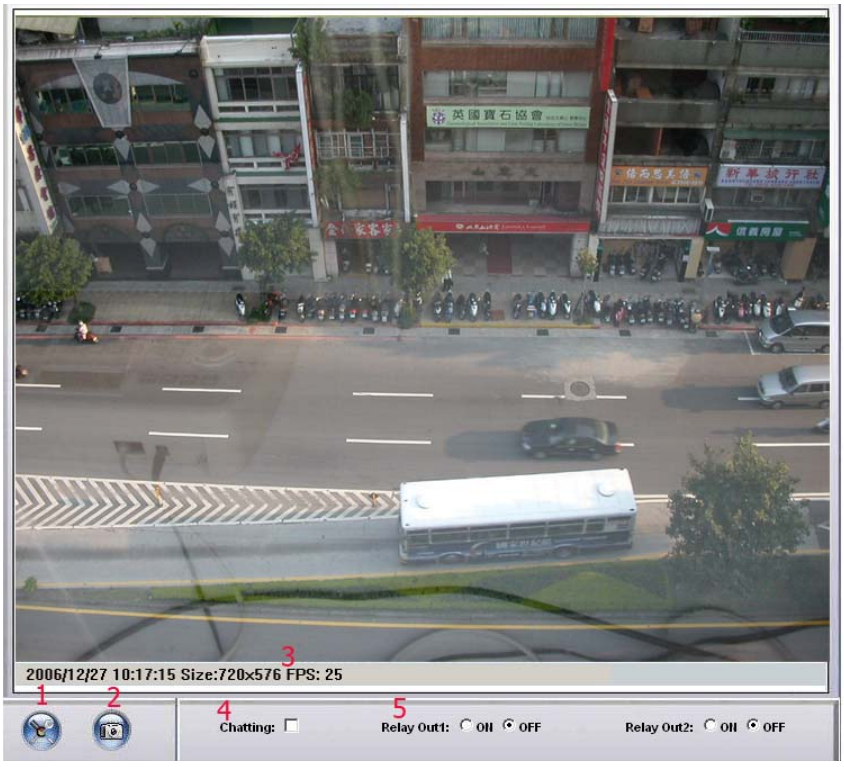


# IV. Live Video

Start a IE browser, type the IP address of the IP camera in the address field. It will show the following dialogue box. Key-in the user name and password. The default user name and password are “**admin**” and “**admin**”.




When connect to the IP CAMERA。The following program interface shows.



1. : Get into the administration page
2. : Video Snapshot
3. Show system time, video resolution, and video refreshing rate
4. IP CAMERA supports 2-way audio. Click the “Chatting” check box. Then you can use microphone which connect to the PC to talk to server side, which is IP CAMERA side.
5. Control the relay which is connected to this camera.

Double-click the video, it will change to full screen mode. Press “Esc” or double-click the video again, it will change back to normal mode.

Right-Click the mouse on the video, it will show a pop-up menu.

1. Snapshot：Save a JPEG picture

2. Record Start：Record the video in the local PC. It will ask you where to save the video. To stop recording, right-click the mouse again. Select “Record Stop”. The video format is AVI. Use Microsoft Media Player to play the recorded file.

3. Mute：Turn of the audio. Click again to turn on it.

4. Full Screen：Full-screen mode.

# V. Configuration

Click to get into the administration page. Click to go back to the live video page.

# A.System

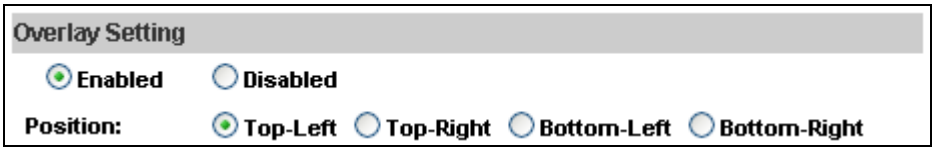
i、 System Information

a. Server Information: Set up the camera name, select language, and set up the camera time.

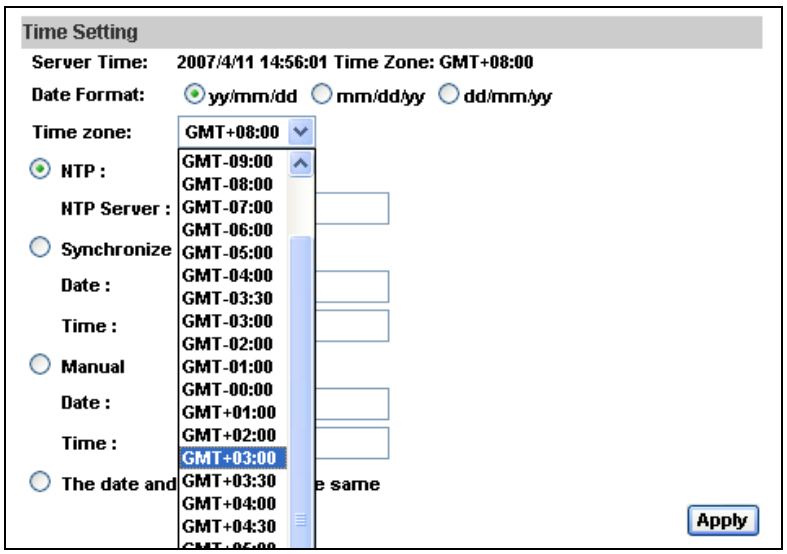
1. Server Name：This is the Camera name. This name will show on the IP Installer.

2. Select language：There are English, Traditional Chinese, and Simplified Chinese to select. When change, it will show the following dialogue box for the confirmation of changing language.

b. Overlay Setting: select a position where date & time showing on screen.

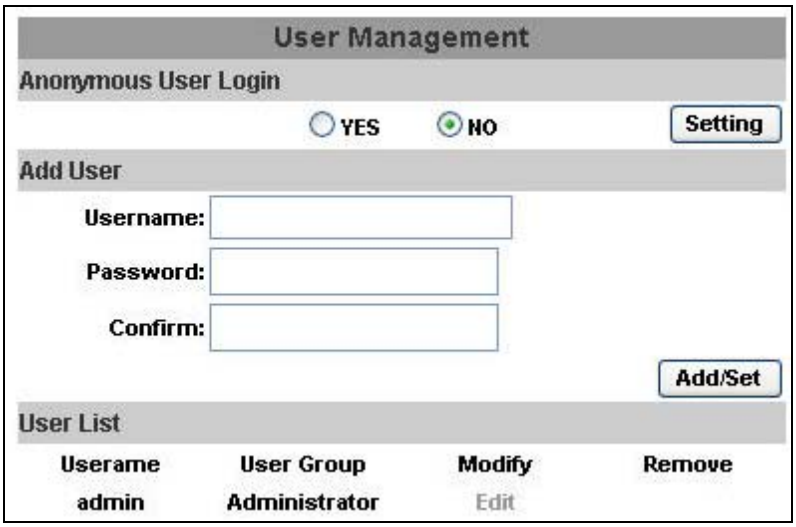



c. Server time setting：Select options to set up time - “NTP”, “Synchronize with PC’s time”, “Manual”, “The date and time remain the same”.




ii、 User Management

IP CAMERA supports three different users, administrator, general user, and anonymous user.




a. Anonymous User Login：

Yes：Allow anonymous login

No：Need user name & password to access this IP camera

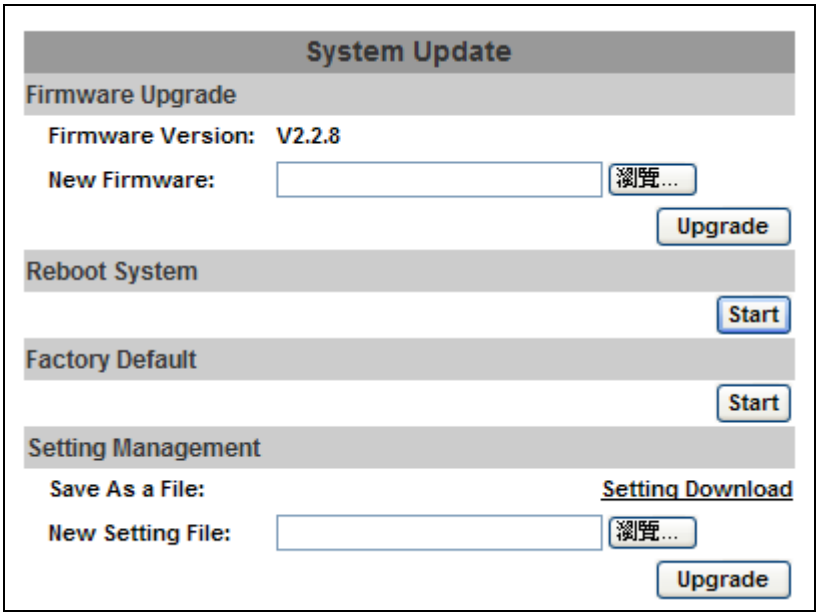
b. Add user：

Type the user name and password, then click “Add/Set”.

c. Click “edit” or “delete” to modify the user.

User_Setting - Microsoft Internet Explorer
User Setup
Username:
admin
Password:
Confirm:
OK

iii、 System update：




a. To update the firmware online, click “Browse…” to select the firmware. Then click “Upgrade” to proceed.

b. Reboot system：re-start the IP camera

c. Factory default：delete all the settings in this IP camera.

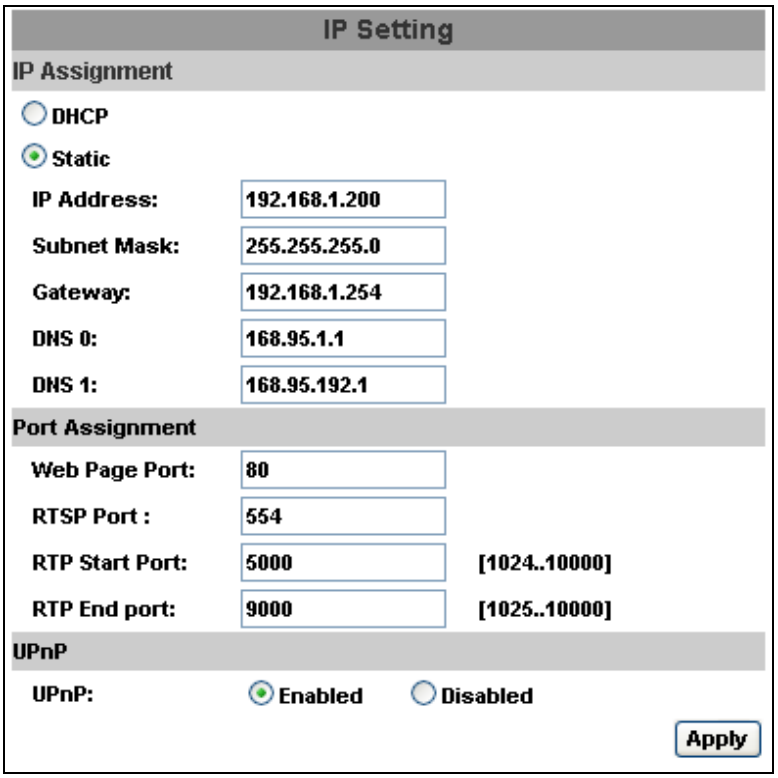
d. Setting Management：User may download the current setting to PC, or upgrade from previous saved setting.

1. Setting download:
   Right-click the mouse button on Setting Download → Select “Save AS…” to save current IP CAM setting in PC → Select saving directory → Save
2. Upgrade from previous setting
   Browse → search previous setting → open → upgrade → Setting update confirm → click **index.html**. to return to main page

# B.Network

i、 IP Setting

IP Camera supports DHCP and static IP.

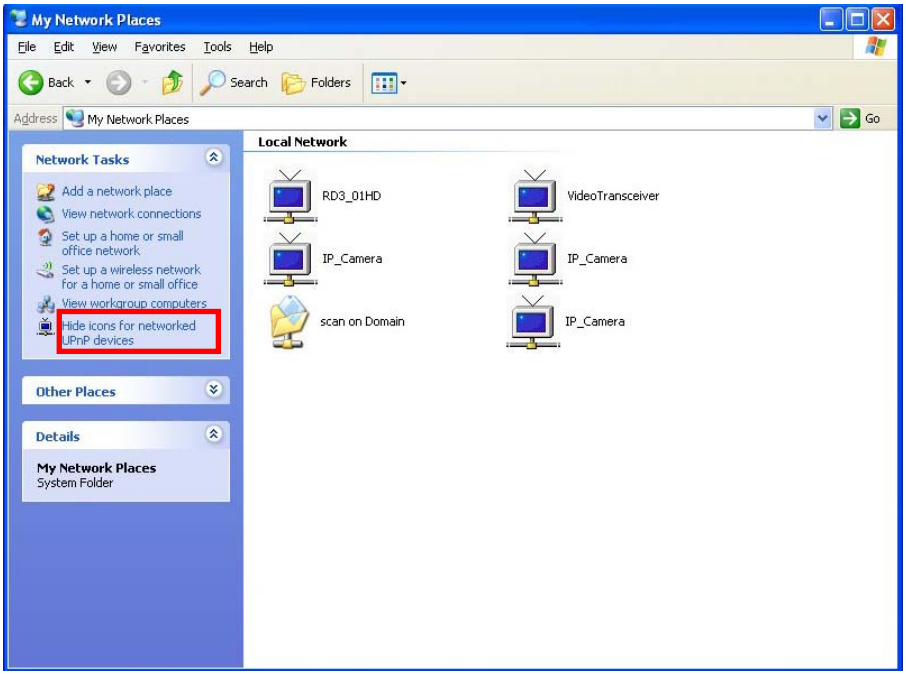



a. DHCP：Using DHCP, IP Camera will get all the network parameters automatically.

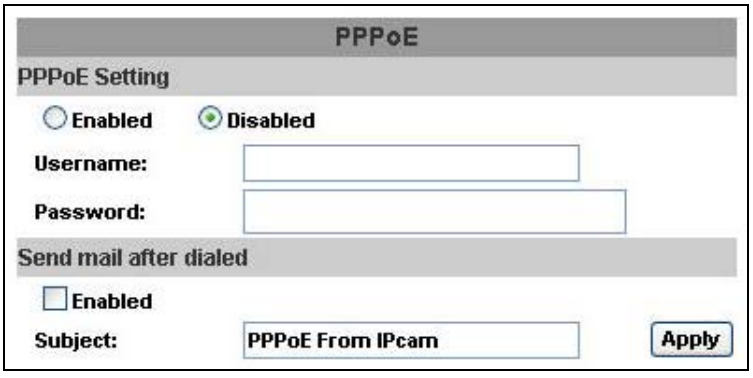
b. Static IP：Please type in IP address, subnet mask, gateway, and DNS manually.

c. Port Assignment: user may need to assign different port to avoid conflict when setting up IP assignment.
   1. Web Page Port: setup web page connecting port and video transmitting port (Default: 80)
   2. RTSP Port: setup port for RTSP transmitting (Default: 554)
   3. RTP Start and End Port: in RTSP mode, you may use TCP and UDP for connecting. TCP connection uses RTSP Port (554). UDP connection uses RTP Start and End Port.

d. UPnP (Universal Plug and play): Display UPnP device icon in 『My Network Places』 for hyper link.




ii、 PPPoE：



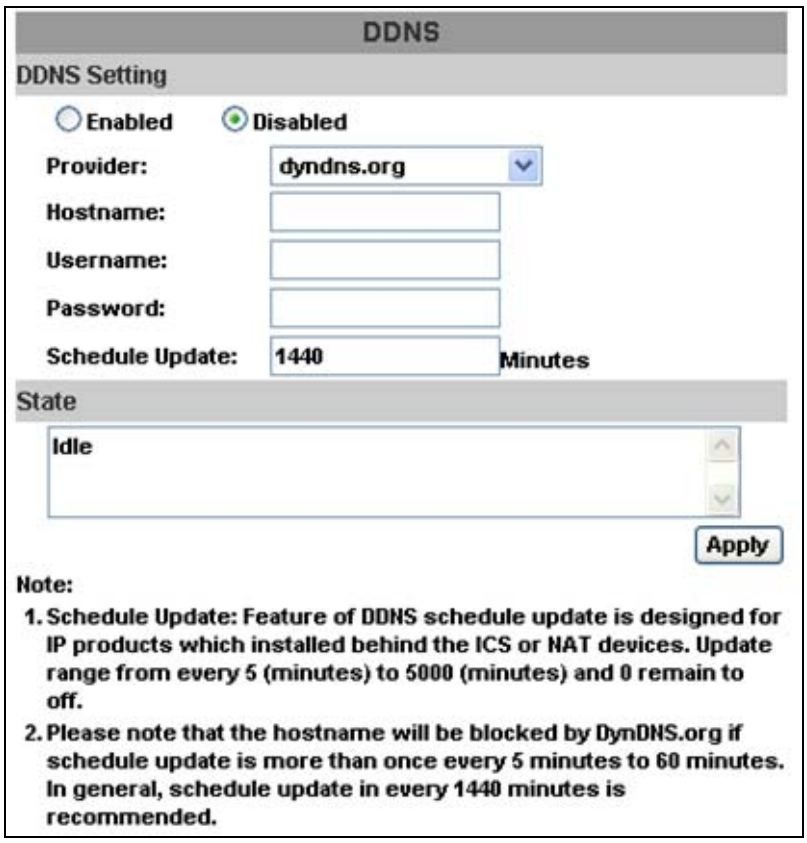

Select “Enabled” to use PPPoE.
Key-in Username and password for the ADSL connection.

Send mail after dialed：When connect to the internet, it will send a mail to a specific mail account. For the mail setting, please refer to “Mail and FTP” settings.

iii、 DDNS：

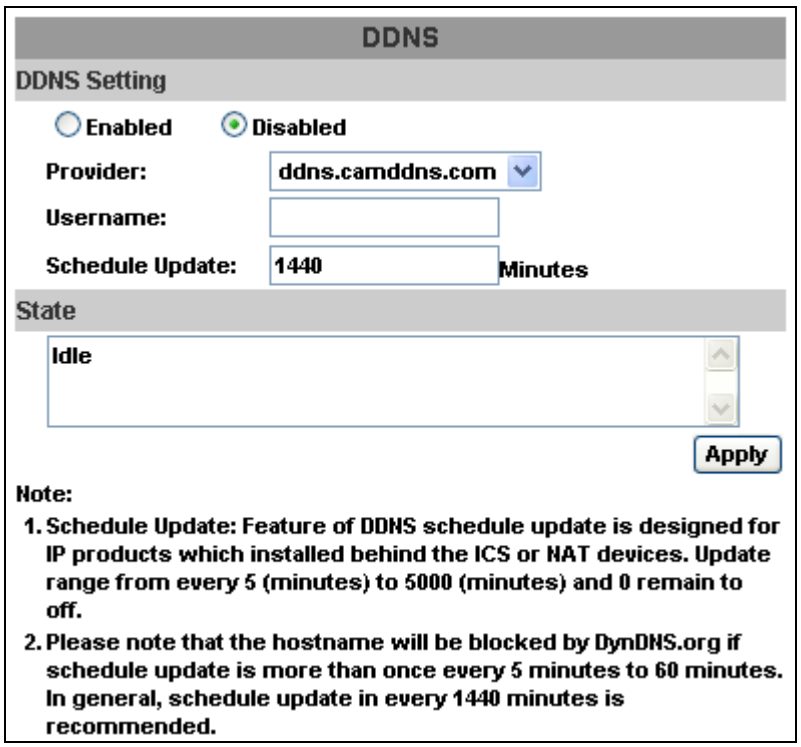
It supports DDNS (Dynamic DNS) service.

a. DynDNS：


DDNS
DDNS Setting
Enabled
Disabled
Provider:
dyndns.org
Hostname:
Username:
Password:
Schedule Update:
1440
Minutes
State
Idle
Apply
Note:
1. Schedule Update: Feature of DDNS schedule update is designed for IP products which installed behind the ICS or NAT devices. Update range from every 5 (minutes) to 5000 (minutes) and 0 remain to off.
2. Please note that the hostname will be blocked by DynDNS.org if schedule update is more than once every 5 minutes to 60 minutes. In general, schedule update in every 1440 minutes is recommended.

1. Enable this service
2. Key-in the DynDNS server name, user name, and password.
3. Set up the IP Schedule update refreshing rate.
4. Click “Apply”
5. If setting up IP schedule update too frequently, the IP may be blocked. In general, schedule update every day (1440 minutes) is recommended.

b. Camddns service：


DDNS
DDNS Setting
Enabled
Disabled
Provider:
ddns.camddns.com
Username:
Schedule Update:
1440
Minutes
State
Idle
Apply
Note:
1. Schedule Update: Feature of DDNS schedule update is designed for IP products which installed behind the ICS or NAT devices. Update range from every 5 (minutes) to 5000 (minutes) and 0 remain to off.
2. Please note that the hostname will be blocked by DynDNS.org if schedule update is more than once every 5 minutes to 60 minutes. In general, schedule update in every 1440 minutes is recommended.

1. Please enable this service
2. Key-in user name.
3. IP Schedule update is default at 5 minutes
4. Click “Apply”.

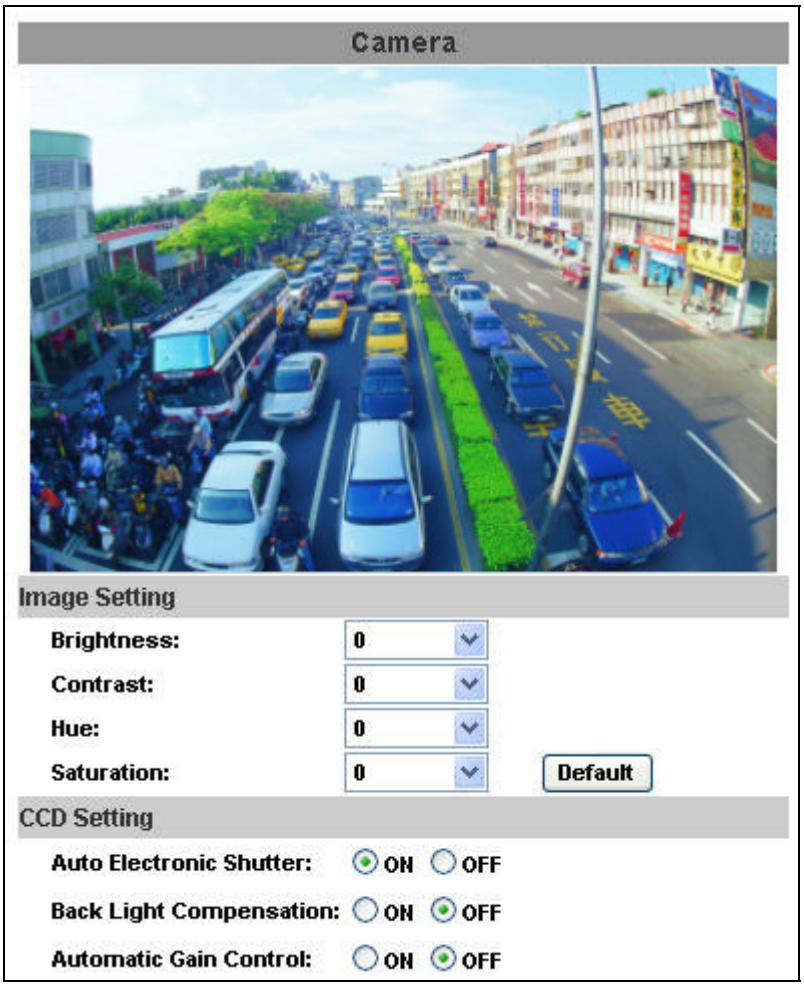
c. DDNS Status

1. Updating：Information update
2. Idle：Stop service
3. DDNS registration successful, can now log by http://<username>.ddns.camddns.com：Register successfully.
4. Update Failed, the name is already registered：The user name has already been used. Please change it.
5. Update Failed, please check your internet connection : Network connection failed.
6. Update Failed, please check the account information you

provide：The server, user name, and password may be wrong.

A/V Setting

iv、 Image Setting




Adjust “Brightness”, “Contrast”, “Hue”, “Saturation” to get clear video.

For CCD Setting, IP CAMERA supports “Auto Electronic Shutter”, “Back Light Compensation”, and “Automatic Gain Control”.

v、 Video Setting

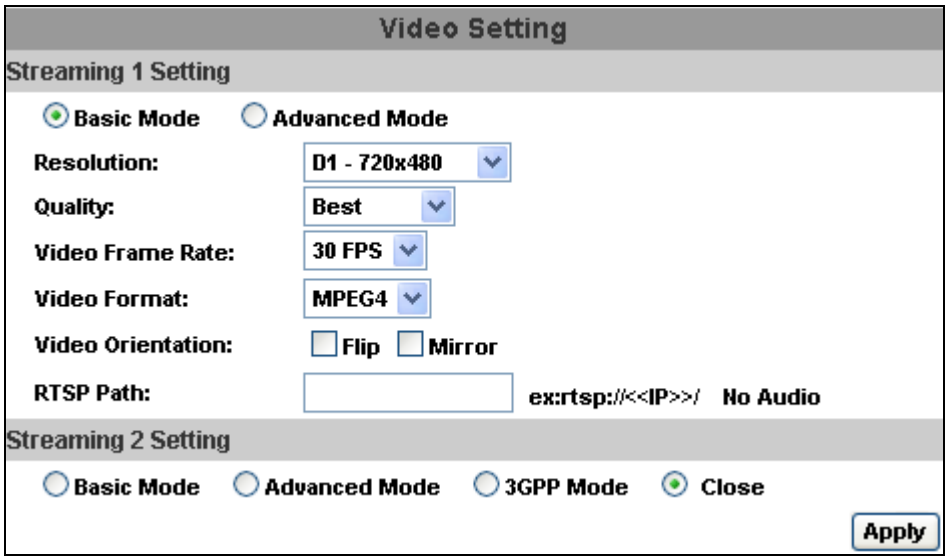
User may select 2 streaming output simultaneously:

Streaming 1 Setting: Basic mode and Advanced mode

Streaming 2 Setting: Basic mode, Advanced mode, and 3GPP mode

**(Max Video Frame Rate for both streaming combined is 25 FPS)**

a. Streaming 1 Basic Mode：




1. Resolution：

   There are 4 resolutions to choose.

| | | NTSC | / | PAL |
|---|---|---|---|---|
| D1 | – | 720×480 | / | 720×576 |
| 4CIF | – | 704×480 | / | 704×576 |
| CIF | – | 352×240 | / | 352×288 |
| QCIF | – | 176×120 | / | 176×144 |

2. Quality：

   There are 5 levels to adjust:
   Best/ High/ Standard/ Medium/ Low
   The higher the quality is, the bigger the file size is. Also not good for internet transmitting

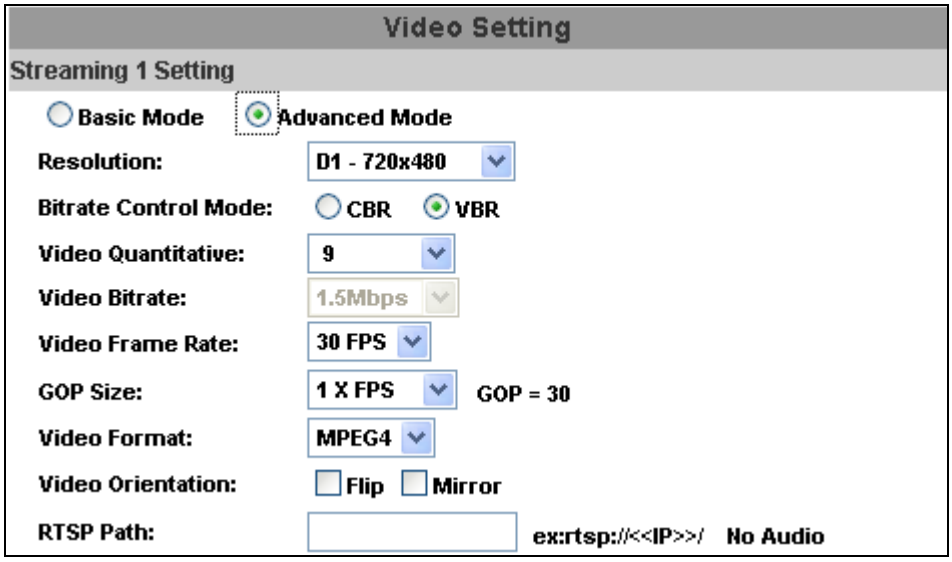
3. Video Frame Rate：The video refreshing rate per second. The MAX is 25 FPS.

4. Video Format：MPEG4 or JPEG

5. Video Orientation：Flip or Mirror

6. RTSP Path: RTSP output name

b. Streaming 1 Advanced Mode：




1. Resolution：

There are 4 resolutions to choose.

| | | NTSC | / | PAL |
|---|---|---|---|---|
| D1 | – | 720×480 | / | 720×576 |
| 4CIF | – | 704×480 | / | 704×576 |
| CIF | – | 352×240 | / | 352×288 |
| QCIF | – | 176×120 | / | 176×144 |

2. Bitrate Control Mode

There are CBR(Constant Bit Rate) and VBR(Variable Bit Rate) to use.

CBR：64Kbps~4Mbps (the higher the CBR is, the better the video quality is)

VBR：1~10 (Compression Rate)

3. Video Frame Rate

The video refreshing rate per second.

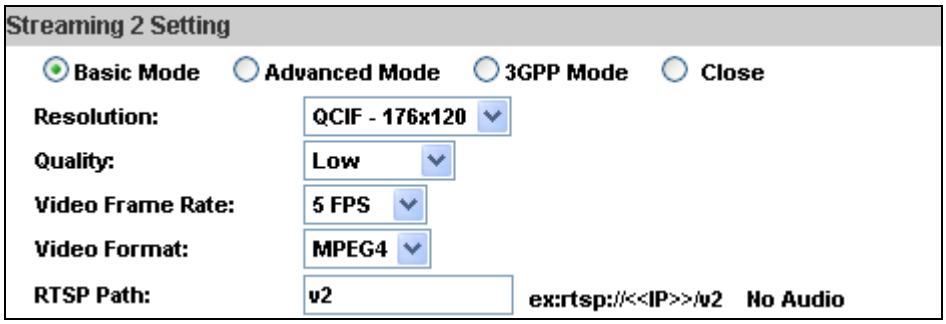
4. GOP Size
   It means "Group of Pictures". The higher the GOP is, the better the quality is.

5. Video Format：MPEG4 or JPEG

6. Video Orientation：Flip or Mirror

7. Access Name: RTSP output connecting route

c. Streaming 2 Basic Mode：




1. Resolution：

   There are 4 resolutions to choose.

| | | NTSC | / | PAL |
|---|---|---|---|---|
| D1 | – | 720×480 | / | 720×576 |
| 4CIF | – | 704×480 | / | 704×576 |
| CIF | – | 352×240 | / | 352×288 |
| QCIF | – | 176×120 | / | 176×144 |

2. Quality：

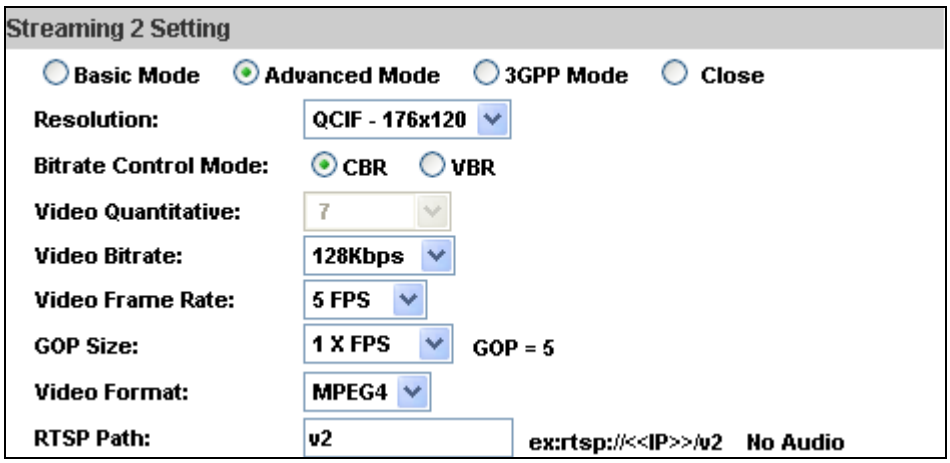
   There are 5 levels to adjust:
   Best/ High/ Standard/ Medium/ Low
   The higher the quality is, the bigger the file size is. Also not good for internet transmitting

3. Video Frame Rate：The video refreshing rate per second.

4. Video Format：MPEG4 or JPEG

5. RTSP Path: RTSP output connecting route

d. Streaming 2 Advanced Mode：




1. Resolution：

There are 4 resolutions to choose.

| | | NTSC | / | PAL |
|---|---|---|---|---|
| D1 | – | 720×480 | / | 720×576 |
| 4CIF | – | 704×480 | / | 704×576 |
| CIF | – | 352×240 | / | 352×288 |
| QCIF | – | 176×120 | / | 176×144 |

2. Bitrate Control Mode

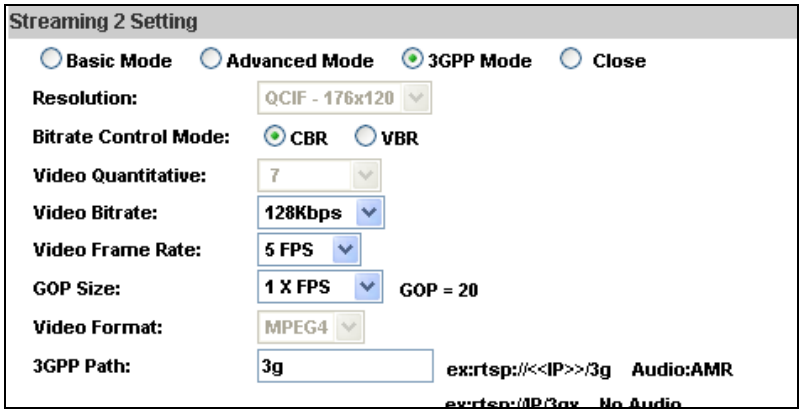
There are CBR(Constant Bit Rate) and VBR(Variable Bit Rate) to use.

CBR：64Kbps~4Mbps (the higher the CBR is, the better the video quality is)

VBR：1~10 (Compression Rate)

3. Video Frame Rate
   The video refreshing rate per second.
4. GOP Size
   It means "Group of Pictures". The higher the GOP is, the better the quality is.
5. Video Format：MPEG4 or JPEG
6. RTSP Path: RTSP output name
7. 3GPP: 3GPP output name

e. Streaming 2, 3GPP mode:




**3GPP mode suggest setting: QCIF, lower than 128kbps, 5FPS, GOP= 1x FPS or 2x FPS, MPEG4 format**

1. Fix Resolution：

   QCIF – 176×120 / 176×144

2. Bitrate Control Mode

   There are CBR(Constant Bit Rate) and VBR(Variable Bit Rate) to use.

   CBR：64Kbps~4Mbps (the higher the CBR is, the better the video quality is)

   VBR：1~10 (Compression Rate)

3. Video Frame Rate **( 5 FPS is recommended )**
   The video refreshing rate per second.
4. GOP Size

It means "Group of Pictures". The higher the GOP is, the better the quality is.

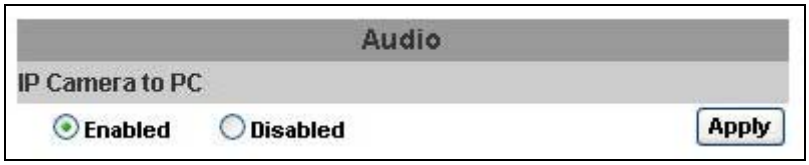
5. Video Format：MPEG4 or JPEG

6. 3GPP: 3GPP output name

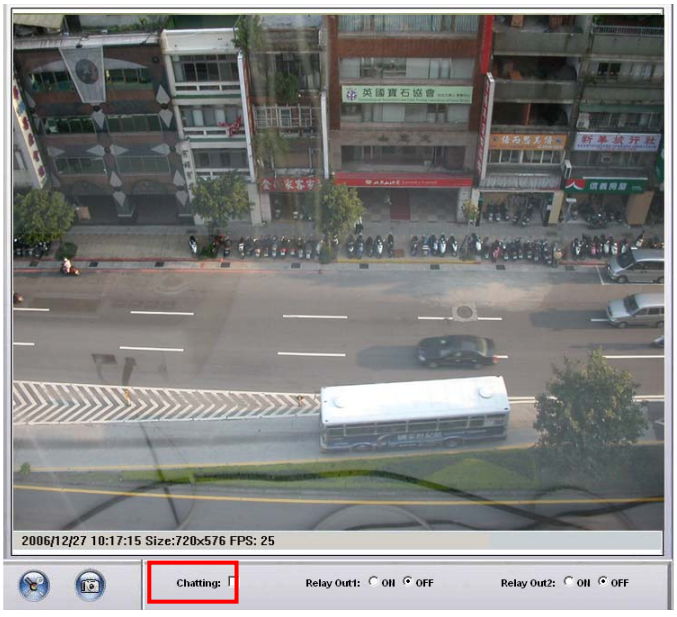
vi、 Audio：

IP CAMERA supports 2-way audio. User can send audio from IP Camera Built-in mic to remote PC; User can also send audio from remote PC to IP Camera's external speaker.

a. Audio from IP camera built-in mic to local PC: select "Enable" to start this function.




b. Audio from local PC to IP Camera: Check "chatting" in the browsing page.




The Audio will not be smooth when enable SD card recording function simultaneously.

# C.Event List

IP CAMERA provides multiple event settings.

i、 Event Setting

a. Motion Detection：

IP CAMERA allows 3 areas motion detection. When motion is triggered, it can send the video to some specific mail addresses, transmit the video to remote ftp server, trigger the relay, and save video to local SD card. To set up the motion area, click “Area Setting”. Using mouse to drag and draw the area. The same operation for area 2 and 3.

b. Record Time Setting：

Pre Alarm and Post Alarm setups for video start and end time when motion detected, I/O, or other devices got triggered.

c. Network Dis-connected：

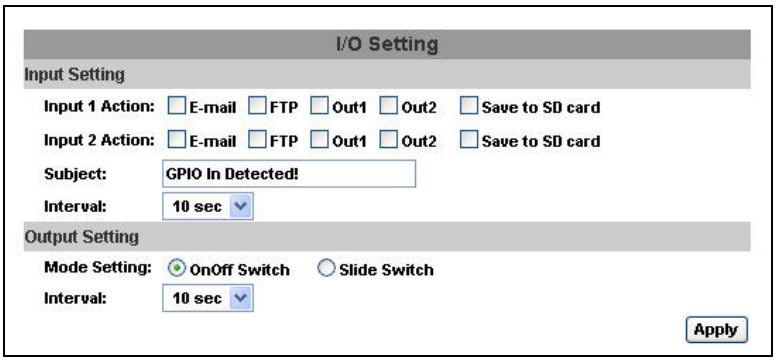
When the network is down, it will save the video to local SD card. This function is only enabled in wire connection.

d. Network IP check

When the connection is down, it records the video to SD card. Make sure the video recording is continuous. To use this function, key in the IP address of the PC which has recording software installed. Enable the function of “Save to SD card”, then click “Apply”. **The interval of two video files on SD card is fixed with 30 seconds.**

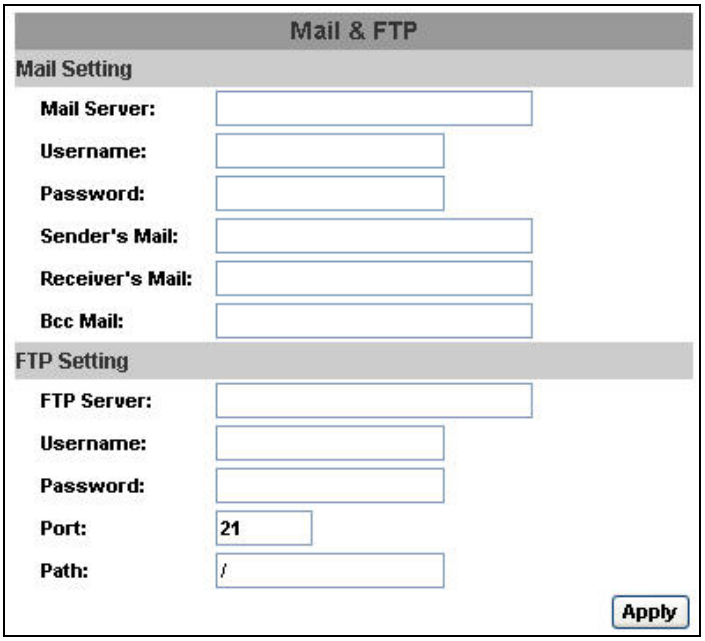
ii、 I/O Setting

IP CAMERA supports 2 input/ 2 output. When input is triggered, it can send the video to some specific mail addresses, transmit the video to remote ftp server, trigger the relay, and save video to local SD card.


I/O Setting
Input Setting
Input 1 Action: E-mail FTP Out1 Out2 Save to SD card
Input 2 Action: E-mail FTP Out1 Out2 Save to SD card
Subject: GPIO In Detected!
Interval: 10 sec
Output Setting
Mode Setting: OnOff Switch Slide Switch
Interval: 10 sec
Apply

iii、 Mail & FTP

To send out the video via mail of ftp, please set up the configuration first.



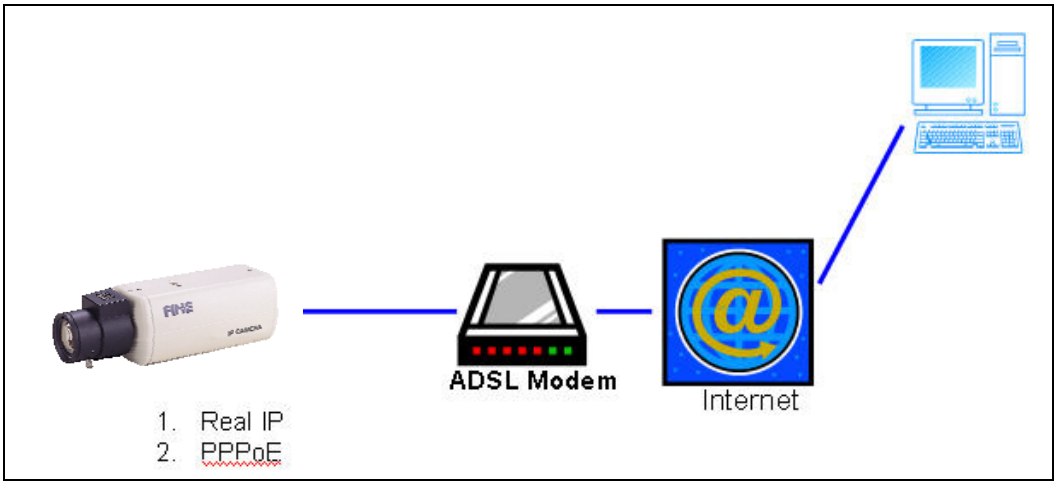
iv、 Log List

| Log List |
| --- |
| System Logs |
| Logs |
| Motion Detection Logs |
| Logs |
| I/O Logs |
| Logs |
| All Logs |
| Logs |

Sort by System Logs, Motion Detection Logs and I/O Logs. In addition, System Logs and I/O Logs won't lose data due to power failure.

# VI. Network Configuration

i、 Configuration 1：



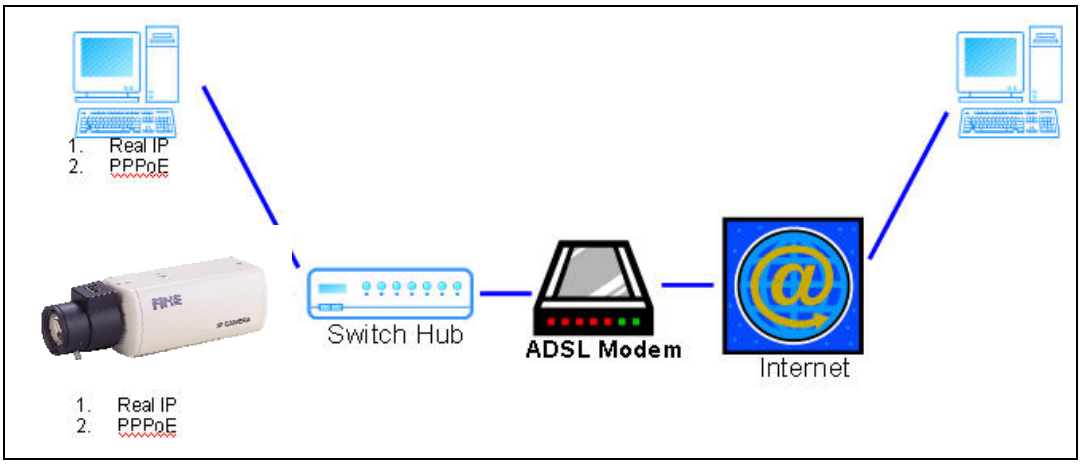

a. Internet Access：ADSL or Cable Modem

b. IP address：One real IP or one dynamic IP

c. Only IP CAMERA connects to the internet

d. For fixed real IP, set up the IP into IP CAMERA. For dynamic IP, start PPPoE.

ii、 Configuration 2：




a. Internet Access：ADSL or Cable Modem

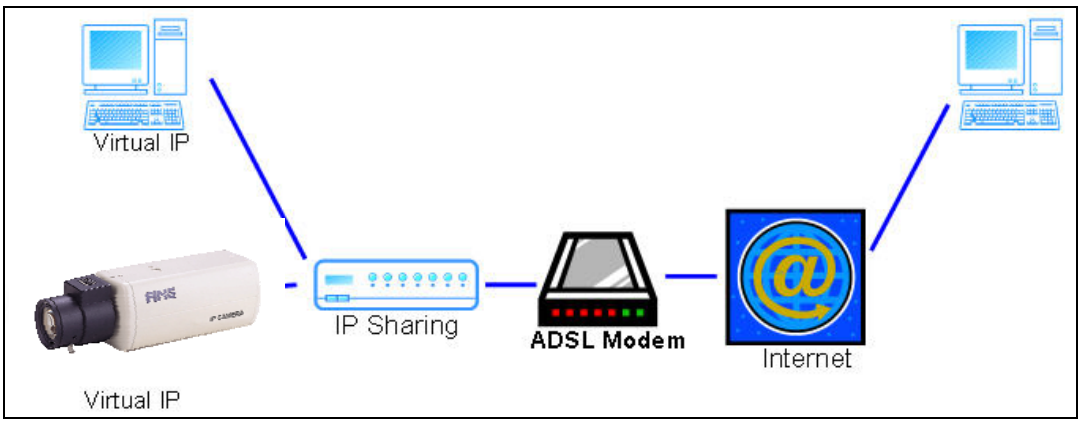
b. IP address：More than one real IP or one dynamic IP

c. IP CAMERA and PC connect to the internet

d. Device needed：Switch Hub

e. For fixed real IP, set up the IP into IP CAMERA and PC. For dynamic IP, start PPPoE.

iii、 Configuration 3：




a. Internet Access：ADSL or Cable Modem

b. IP address：one real IP or one dynamic IP

c. IP CAMERA and PC connect to the internet

d. Device needed：IP sharing

e. Use virtual IP, set up port forwarding in IP sharing.

# VII. Factory Default

i、 To recover the default IP address and password, please follow the following steps.

ii、 Remove power, and press and hold the button in the back of IP CAMERA.

iii、 Power on the camera. Don't release the button during the system booting.

iv、 It will take around 30 seconds to boot the camera.

v、 Release the button when camera finishes proceed.

vi、 Re-login the camera using the default IP (http://192.168.1.200), and user name (admin), password (admin).

# VIII. Package contents

i、 IP CAMERA Network Camera

ii、 Adaptor

iii、 Ethernet Cable

iv、 CD title (User manual, IP installation Utility)